



## STATUS OF THE CLAIMS

Claims 1-20 were rejected.

Claim 1 has been amended.

Claims 1-20 are pending in the application.

## REMARKS

This Preliminary Amendment is submitted upon commencement of a continuing prosecution application following a final official action and advisory action.

Claim 1 has been amended to more clearly set forth the "knife-like leading edge" as a separate limitation and distinct element of the claim.

In the final action dated August 15, 2001, Examiner rejected claims 1, 19, and 20 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6, 093,113 to Mertens. This ground of rejection is respectfully traversed.

The Examiner stated that 1) Applicant has argued that the "knife-like leading edge" of the invention is patentably distinct; 2) Applicant has argued that the purpose of the leading edge is to cut through grass whereas neither Mertens nor Koehler devices have this structure; and 3) Applicant's argument is not germane since the Applicant has not claimed these characteristics. Applicant has amended claim 1 to distinctly claim a "knife-like leading edge" as a separate claim limitation. Claim 1, as amended, recites "A golf club head comprising . . . a metal blade comprising a striking face, a sole, a rear face, and a knife-like leading edge, the striking face and the sole meeting at the knife-like leading edge".

Mertens discloses a golf club having an improved sole configuration; the sole configuration comprises four cambered surfaces, a third cambered surface is located proximate a leading edge which is located at the forwardmost progression of a ball striking surface of the golf club head, and all four cambered surfaces are generally trapezoidal in shape. Nowhere in Mertens is there a teaching or suggestion of a knife-like leading edge. To the contrary, FIGS. 4, 6, and 7 show that the striking face and the sole meet at about a 90 degree angle at a rounded leading edge (28). Mertens' invention pertains to the configuration of the sole of the club head

and also to a metallic layer disposed on the striking surface. The physical properties of the leading edge (28) are not discussed at all. Therefore, as Mertens clearly does not teach or suggest a knife-like leading edge, claim 1 should be allowable over Mertens. As claims 19 and 20 depend from claim 1, they should be allowable for the same reason.

Claims 1 and 19 were rejected by Examiner under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,301,944 to Koehler. This ground of rejection is respectfully traversed.

Koehler discloses a golf club head having a two-portioned sole, one portion of the sole meeting the face at a leading edge (22), and an increased radius of curvature of the leading edge. Nowhere in Koehler is there a teaching or suggestion of a knife-like leading edge. Again, to the contrary, FIGS. 1, 2, 3(a), 3(b), and 3(c) show that the face and sole meet at rounded leading edge. Further, Koehler teaches away from a knife-like leading edge at Column 5, lines 1-9, where Koehler discloses that the leading edge of his club head has an increased radius of curvature "to allow the wedge to spread the blades of grass rather than cut across them". The knife-like leading edge of claim 1 promotes a "weed-whacker" action, enabling a golfer to get out of the rough with control because the golf club does not twist. For these reasons, claim 1 should be allowable over Koehler. As claim 19 depends from claim 1, it should be allowable for the same reasons.

Claims 2-13 and 16-18 were rejected by Examiner under 35 U.S.C. 103(a) as being unpatentable over Mertens in view of U.S. Patent No. 5,013,041 to Sun et al. and U.S. Patent No. 5,489,097 to Simmons. This ground of rejection is also traversed.

Although Sun et al. disclose the use of weight members, it fails to cure the deficiency of Mertens with respect to a teaching or suggestion of a knife-like leading edge. The leading edge of Sun et al. is not given a reference numeral as it is not material to the invention. However, FIG. 3 of Sun et al. shows that the leading edge (the edge where the sole plate (17) meets the face plate (11)) is rounded. As neither Sun et al. nor Mertens teach or suggest the knife-like leading edge of claim 1, claims 2-13 and 16-18, which depend from claim 1, should be allowable over these cited references.

Simmons suffers the same defect as Mertens and Sun et al. It also fails to teach or suggest a knife-like leading edge. Although not given a reference numeral because of its immateriality to the invention of Simmons, the face (16) of the club head is shown in FIGS. 2, 5,

7 and 8 to meet the sole (18) at a blunt, approximately 90 degree angle. Therefore, as Mertens, Sun et al. and Simmons, whether singly or in combination, fail to teach or suggest all the limitations of claim 1, claims 2-13 and 16-18 which depend from claim 1, should be patentable over these references.

Claims 2-13 and 16-18 were rejected by Examiner under 35 U.S.C. 103(b) as being unpatentable over Koehler in view of Sun et al. and Simmons. This ground of rejection is traversed for the same reasons as given above with respect to Mertens, Sun et al. and Simmons. These references, singly or in combination, fail to suggest the knife-like leading edge which is recited in Claim 1. As such, claims 2-13 and 16-18, which depend from claim 1, should be patentable over these cited references.

Claims 14-15 were rejected by Examiner under 35 U.S.C. 103(a) as being unpatentable over any one of Mertens or Koehler and further in view of U.S. Patent No. 4,065,133 to Gordos and U.S. Patent No. 5,603,668 to Antonious. This ground of rejection is again traversed.

Gordos discloses a golf club having side wall surfaces 18 with parallel grooves formed therein, said grooves being longitudinally aligned and in communication with groove extensions 32a and 34a. Gordos fails to cure the deficiency of Mertens and Koehler with respect to a knife-like leading edge. The face plate of Gordos is shown in FIGS. 3 and 5 to meet the sole of the club head at a rounded and relatively high degree angle. Thus, claim 1 and claims 14-15, which depend from claim 1, should be patentable over these cited references.

In addition, claim 14 is separately patentable over Mertens or Koehler in view of Gordos. Claim 14 recites the golf club of claim 1 "wherein the knife-like leading edge is serrated". The serration of the knife-like leading edge can help improve the effectiveness of the knife-like leading edge as it cuts through the rough. None of the cited references teaches or suggests a leading edge which is serrated. Rather, Gordos discloses grooves which run the entire length of the upper and bottom surfaces of the club head and which act as a directional vane to maintain the club head in a desired arcuate path, reducing the likelihood of twisting of the club. The rounded, blunt edge of Gordos, where the face plate meets the bottom surface of the club head, precludes the possibility that the "grooves" of Gordos can be serrated. "Serrated" is defined as "notched like the edge of a saw" or "having or forming a row of small, sharp, projections resembling the teeth of a saw". (See attached definitions.) FIGS. 1, 3, 5, and 6 reveal that the

grooves of Gordos do not meet the definition of "serrated". Therefore claim 14 is separately patentable over Mertens or Koehler in view of Gordos. As claim 15 depends from claim 14, it is patentable for the same reasons.

Antonious discloses a club head with an improved sole construction including cavities and/or projections on the sole in various shapes. The cavities and projections on the sole are spaced behind the leading edge of the club head and include a substantially vertical wall facing the leading edge of the golf club head.

Antonious, like Gordos, fails to cure the deficiency of Mertens and Koehler with respect to the knife-like leading edge limitation of claim 1. As shown in FIGS. 3, 4A, 7A, 11A, 13A, 17A, 23A, 25A and 27A, the striking face (20) of Antonious meets the sole (28) at a blunt, relatively high degree angle, rather than at a knife-like leading edge. For this reason, claims 14-15, which depend from claim 1, are patentable over the cited references.

In addition, claim 14 is separately patentable over Mertens or Koehler in view of Antonious. Claim 14 recites a club head wherein "the knife-like leading edge is serrated". Nowhere in Antonious is there taught or suggested that the leading edge is serrated. Rather it is the sole of Antonious that has cavities or projections. Antonious' purpose for placing cavities or projections on the sole is to move a greater amount of sand directly at the ball creating an improved shot from a bunker. Serrating the leading edge would not serve this purpose and therefore Antonious can not suggest a knife-like leading edge. Therefore, claim 14 is separately patentable over Mertens or Koehler in view of Antonious. As claim 15 depends from claim 14, it should be patentable for the same reasons.

In the Final Office Action, Examiner states that 1) Mertens is motivated to move the ball from the rough, 2) that Applicant's argument that Koehler's device does not cut the grass but spreads it does not make the claimed invention patentably distinct, 3) that an artisan skilled in the art would choose to design the leading edge sharp enough to cut the grass based on the design requirements and the cost of manufacturing, and 4) that the modified Mertens and Koehler devices are a means to achieve the same function as that claimed for the invention. None of these statements by Examiner meet the requirements of § 2142 of the MPEP which requires that in order for a *prima facie* case of obviousness to be made out, the prior art reference, or references when combined, must teach or suggest all the claim limitations. "To support the

conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.” MPEP § 2142, citing *Ex parte Clapp*, 227 USPQ 972,973 (Bd. Pt. App. & Inter. 1985) (emphasis added). Examiner has not shown that any of the cited references teach or suggest a knife-like leading edge. Nor has Examiner in any way shown how any of the references suggest a modification of the inventions of such references to reach Applicant’s invention. Examiner’s statement that “[a]n artisan skilled in the art would choose to design the leading edge sharp enough to cut the grass based on the design requirements and the cost of manufacturing” is a broad, conclusory statement which is not supported or suggested by any of the references. Examiner has clearly failed to present a *prima facie* case of obviousness.

Secondly, Examiner states that Applicant has failed to provide any evidence of new and unexpected results and that therefore Applicant’s limitations clearly are obvious and lack criticality. Applicant has explained how the claimed knife-life leading edge cuts through grass allowing a golfer to obtain better control when hitting from the rough, a benefit not taught or suggested by any cited reference. Further, it is not incumbent upon Applicant to come forward with evidence of unexpected results, unless or until Examiner has presented a *prima facie* case of obviousness. MPEP § 2142 states that “[i]f the Examiner does not produce a *prima facie* case, the Applicant is under no obligation to submit evidence of nonobviousness . . . The initial evaluation of *prima facie* obviousness thus relieves both the examiner and applicant from evaluating evidence beyond the prior art and the evidence in the specification as filed until the art has been shown to suggest the claimed invention.” As Examiner has clearly failed to present a *prima facie* case of obviousness, such a requirement by the Examiner is untimely.

In view of the above remarks, Applicant respectfully submits that claims 1-20 are patentable over the cited references. Withdrawal of the rejections and allowance of these claims is respectfully requested.

The Commissioner is hereby authorized to charge any fees that may be due in connection with these remarks to Deposit Account No. 04-1679.

Respectfully submitted,

Dated: 2/13/02

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

**In the claims:**

Please amend the claims as follows:

1. (Amended) A golf club head comprising:

a hosel located at a heel end to accommodate a shaft, and  
a metal blade comprising a striking face, a sole, [and] a rear face, and a knife-like leading edge, the striking face and the sole meeting at [a] the knife-like leading edge, the sole having a protrusion running substantially parallel to the leading edge and located at the juncture of the sole and the rear face, the rear face meeting the striking face at a trailing edge.

2. (Unchanged) The golf club head of claim 1, further including at least one metal dowel disposed in the metal blade and located substantially forward of and substantially parallel to an apex of the protrusion of the sole.

3. (Unchanged) The golf club head of claim 1, further including a leading metal dowel and a trailing metal dowel disposed in the metal blade and located substantially on each side of an apex of the protrusion of the sole, the leading metal dowel disposed between the protrusion of the sole and the leading edge and the trailing metal dowel disposed between the protrusion of the sole and the trailing edge.

4. (Unchanged) The golf club head of claim 3, wherein the leading metal dowel is cylindrical and smaller in diameter than the trailing metal dowel, the trailing metal dowel also being cylindrical.

5. (Unchanged) The golf club head of claim 4, wherein the leading metal dowel has a diameter of 0.25 inch or less, and the trailing metal dowel has a diameter between 0.375 inch and 0.4375 inch.

6. (Unchanged) The golf club head of claim 2, wherein the metal dowel is disposed between approximately 0.25 inch from an edge of the metal blade connected to the hosel of the golf club head and 0.25 inch from the center of a toe edge of the golf club head opposite the hosel of the golf club head.

7. (Unchanged) The golf club head of claim 2, wherein the metal dowel is made of a metal having a density greater than the density of the metal from which the metal blade is formed.

8. (Unchanged) The golf club head of claim 7, wherein the metal dowel is made of lead.
9. (Unchanged) The golf club head of claim 7, wherein the metal dowel is made of tungsten.
10. (Unchanged) The golf club head of claim 7, wherein the metal dowel is made of steel.
11. (Unchanged) The golf club head of claim 1, wherein the angle between the striking face and a vertical plane in which the hosel of the golf club head is positioned in when it is in a substantially upright address position is between  $45^{\circ}$  and  $60^{\circ}$ , where the vertical plane is perpendicular to the ground level horizontal plane and parallel to the leading edge of the club head.
12. (Unchanged) The golf club head of claim 1, wherein the angle between the striking face and the sole is between  $20^{\circ}$  and  $30^{\circ}$ .
13. (Unchanged) The golf club head of claim 1, wherein the knife-like leading edge is straight.
14. (Unchanged) The golf club head of claim 1, wherein the knife-like leading edge is serrated.
15. (Unchanged) The golf club head of claim 14, wherein the distance between a pair of adjacent troughs of the knife-like leading edge is between 0.1875 inch and 0.250 inch.
16. (Unchanged) The golf club head of claim 1, wherein the thickness of the metal blade between the striking face and a planar portion of the rear face positioned substantially parallel to the striking face is between 0.8125 inch and 0.875 inch.
17. (Unchanged) The golf club head of claim 1, wherein a distance from the leading edge to the trailing edge of the golf club head at a point where a set of grooves ends toward the toe end of the club head is between 2.375 inches and 2.5 inches.
18. (Unchanged) The golf club head of claim 1, wherein the angle at the point of the leading edge between ground level and the downward most point of the rounded protrusion of the sole is approximately  $10^{\circ}$  when the hosel of the golf club head is in a substantially upright address position in a vertical plane that is perpendicular to the ground level horizontal plane and parallel to the leading edge of the golf club head.
19. (Unchanged) The golf club head of claim 1, further including a shaft attached to the hosel and having a handle positioned at an end opposite the hosel.
20. (Unchanged) The golf club head of claim 1, wherein the striking face is abrasive.